

## REMARKS

Claims 1-5, 7-14, 16-18, 23 and 24 are pending in the present Application.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 10-27 of copending Application No. 09/976,421, now U.S. Patent No. 6,679,983. Applicants submit herewith a terminal disclaimer and respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,531,046. Applicants submit herewith a terminal disclaimer and respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under 35 USC § 102(e) as being anticipated by Merricks (U.S. Publication No. 2002/0088713, now U.S. Patent No. 6,660,153). Applicants respectfully traverse.

The Merricks et al. patent names as co-inventors David Merricks, Denis Morrissey, Martin W. Bayes, Mark Lefebvre, James G. Shelnut and Donald E. Storjohann and is assigned to Shipley Company, L.L.C., the same assignee as in the present Application. The present Application names as co-inventors Denis Morrissey, who is a co-inventor of the '153 patent, Jeffrey M. Calvert and Robert D. Mikkola.

Submitted herewith is a declaration of Denis Morrissey, a co-inventor of both the '153 patent and the present Application. In his declaration, Mr. Morrissey states that the presently claimed invention was invented by himself, Jeffrey M. Calvert and Robert D. Mikkola. The other co-inventors of the '153 patent (Drs. Merricks and Bayes, Mr. Lefebvre, Dr. Shelnut and Mr. Storjohann) contributed to the '153 patent in areas other than the use of two or more acids in a copper electroplating bath for repairing seed layers, such as in the area of using a copper electroplating bath comprising copper ions in an amount of up to 10 g/L. Thus, the mixture of two or more acids where at least one is a (C<sub>3</sub>-C<sub>6</sub>)alkylsulfonic acid disclosed in the '153 patent

was not invented by David Merricks, Martin W. Bayes, Mark Lefebvre, James G. Shelnut and Donald E. Storjohann.

Accordingly, Applicants submit that the '153 patent is disqualified as prior art under 35 USC § 102(e) as it is not an invention "by another". See MPEP § 2135. Applicants respectfully request that this rejection be withdrawn.

Claims 1-5, 7-14, 16-18 and 23-24 have been rejected under 35 USC § 103(a) as being obvious over Mikkola et al. (U.S. Publication No. 2002/0043468, now U.S. Patent No. 6,682,642). Applicants respectfully traverse.

The '642 patent is assigned to Shipley Company, L.L.C., the same assignee as in the present Application. The '642 patent and the presently claimed invention were, at the time the invention was made, under an obligation of assignment to the same entity, Shipley Company, L.L.C. In support of this, Applicants provide herewith copies of the assignment documents in the '642 patent and the present Application (Exhibits A and B) showing both inventions assigned to Shipley Company, L.L.C. Applicants respectfully request that this rejection be withdrawn.

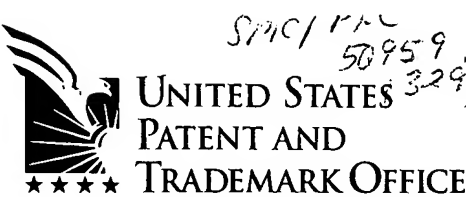
Favorable reconsideration in the form of a notice of allowance is respectfully requested.

Respectfully submitted,

A handwritten signature in cursive script, reading "S. Matthew Cairns".

S. Matthew Cairns, Ph.D.  
Attorney for Applicant  
Registration No. 42,378

c/o EDWARDS & ANGELL LLP  
P.O. Box 55874  
Boston, MA 02205  
Date:



FEBRUARY 02, 2002

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Under Secretary of Commerce For Intellectual Property and  
Director of the United States Patent and Trademark Office  
Washington, DC 20231  
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EDWARDS & ANGELL, LLP  
PETER F. CORLESS  
P.O. BOX 9169  
BOSTON, MA 02209



\*101915543A\*

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RECORDATION DATE: 11/02/2001

REEL/FRAME: 012356/0403  
NUMBER OF PAGES: 5

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

MORRISSEY, DENIS

DOC DATE: 10/18/2001

ASSIGNOR:

CALVERT, JEFFREY M.

DOC DATE: 10/18/2001

ASSIGNOR:

MIKKOLA, ROBERT D.

DOC DATE: 10/18/2001

ASSIGNEE:

SHIPLEY COMPANY, L.L.C.  
455 FOREST STREET  
MARLBOROUGH, MASSACHUSETTS 01752

SERIAL NUMBER: 10003151

FILING DATE: 11/02/2001

PATENT NUMBER:

ISSUE DATE:

012356/0403 PAGE 2

SHAREILL COLES, EXAMINER  
ASSIGNMENT DIVISION  
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12-13-2001

Docket No.: 50959

FORM PTO-1595 (Modified)  
(Rev. 6-93)  
OMB No. 0651-0011 (exp. 4/94)  
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## 1. Name of conveying party(ies):

Denis MORRISSEY  
Jeffrey M. CALVERT  
Robert D. MIKKOLA

MRD  
11.02.01

Additional names(s) of conveying party(ies)

☐ Yes ☒ No

## 2. Name and address of receiving party(ies):

Name: Shipley Company, L.L.C.

Address: 455 Forest Street

City: Marlborough State/Prov.: MA

Country: U.S.A. ZIP: 01752

Additional name(s) &amp; address(es)

☐ Yes ☒ No

## 3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ Other

Execution Date: October 18, 2001

## 4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: 10/18/01

Patent Application No.

Filing date

B. Patent No.(s)

10003151

Additional numbers

☐ Yes ☒ No

## 5. Name and address of party to whom correspondence concerning document should be mailed:

Name: Peter F. Corless

Registration No. 33,860

Address: EDWARDS &amp; ANGELL, LLP

Dike, Bronstein, Roberts &amp; Cushman, IP Group

P.O. Box 9169

City: Boston State/Prov.: MA

Country: U.S.A. ZIP: 02209

## 6. Total number of applications and patents involved:

1

## 7. Total fee (37 CFR 3.41):.....\$ 40.00

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## 8. Deposit account number:

04-1105

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## 9. Statement and signature.

To the best of my knowledge and belief, the foregoing information is true and correct and any attached copy is a true copy of the original document.

S. Matthew Cairns

Name of Person Signing

Signature

11/02/01

Date

5

Total number of pages including cover sheet, attachments, and

**ASSIGNMENT**

WHEREAS, I, Denis MORRISSEY of Huntington, New York, Jeffrey M. CALVERT of Acton, Massachusetts and I, Robert D. MIKKOLA of Grafton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED LAYER REPAIR", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, and which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/245,308, filed November 2, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors also have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest in and to the invention disclosed in said application, in all countries of the world foreign to the United States, including the right to file applications and obtain patents for said invention in its own name in said countries and including all rights of priority in said countries under the terms of any applicable international convention; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.

The Assignors also hereby grant the law firm of EDWARDS & ANGELL, LLP, Dike, Bronstein, Roberts & Cushman, IP Group, the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

\_\_\_\_\_  
Denis MORRISSEY

Dated this 18<sup>th</sup> day of October, 2001.

\_\_\_\_\_  
Jeffrey M. CALVERT

Dated this 18 day of October, 2001.

\_\_\_\_\_  
Robert D. MIKKOLA

ASSIGNMENT

WHEREAS, I, Denis MORRISSEY of Huntington, New York, Jeffrey M. CALVERT of Acton, Massachusetts and I, Robert D. MIKKOLA of Grafton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED LAYER REPAIR", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, and which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/245,308, filed November 2, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

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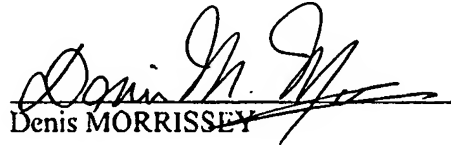
The Assignors further agree to execute any and all patent applications, assignments, affidavits, and any other papers in connection therewith necessary to perfect such patent rights, and also agree, at the request of the Assignee, to testify in any legal proceedings, sign all lawful papers, make all lawful oaths, and generally do everything possible to aid said Assignee, its successors and assigns, to obtain, maintain and enforce patent protection for said invention in all countries.



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IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this 18 day of OCTOBER, 2001.

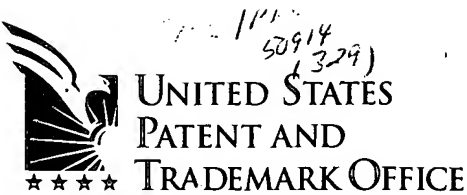
  
Denis MORRISSEY

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

\_\_\_\_\_  
Jeffrey M. CALVERT

Dated this \_\_\_\_ day of \_\_\_\_\_, \_\_\_\_.

\_\_\_\_\_  
Robert D. MIKKOLA

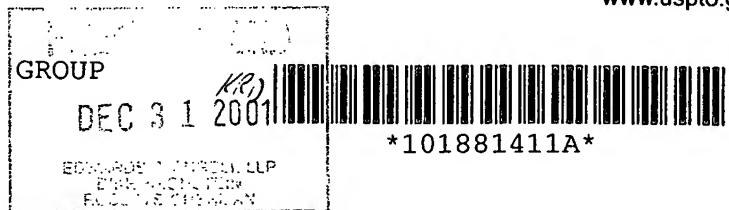


DECEMBER 27, 2001

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RECORDATION DATE: 10/12/2001

REEL/FRAME: 012258/0367  
NUMBER OF PAGES: 3

BRIEF: ASSIGNMENT OF ASSIGNOR'S INTEREST (SEE DOCUMENT FOR DETAILS).

ASSIGNOR:

MIKKOLA, ROBERT D.

DOC DATE: 10/12/2001

ASSIGNOR:

CALVERT, JEFFREY M.

DOC DATE: 10/12/2001

ASSIGNEE:

SHIPLEY COMPANY, L.L.C.  
455 FOREST STREET  
MARLBOROUGH, MASSACHUSETTS 01752

SERIAL NUMBER: 09976422  
PATENT NUMBER:

FILING DATE: 10/12/2001  
ISSUE DATE:

TARA WASHINGTON, EXAMINER  
ASSIGNMENT DIVISION  
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10-22-2001

Docket No.: 50914

FORM PTO-1595 (Modified)  
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Jeffrey M. CALVERT

10-12<sup>th</sup>  
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Additional names(s) of conveying party(ies)

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3. Nature of conveyance:

☒ Assignment☐ Merger☐ Security Agreement☐ Change of Name☐ OtherExecution Date: October 12, 2001

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Name: Shipley Company, L.L.C.Address: 455 Forest StreetCity: MarlboroughState/Prov.: MACountry: U.S.A.ZIP: 01752

Additional name(s) &amp; address(es)

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4. Application number(s) or registration numbers(s):

If this document is being filed together with a new application, the execution date of the application is: 10/12/01

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Filing date

10/16/2001 STEUNEL1 00000041 09976422

04 FC:581

40.00 OP

B. Patent No.(s)

Additional numbers

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5. Name and address of party to whom correspondence concerning document should be mailed:

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Name of Person Signing

Signature

October 12, 2001

Date

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Total number of pages including cover sheet, attachments, and

Attorney Docket N . 50914

Page 1 of 2

**ASSIGNMENT**

WHEREAS, I, Robert D. MIKKOLA of Grafton, Massachusetts and I, Jeffrey M. CALVERT of Acton, Massachusetts, (hereinafter referred to as "Assignors"), have invented certain new and useful improvements in "SEED REPAIR AND ELECTROPLATING BATH", for which an application for United States Letters Patent with the same title shall be filed herewith receiving Serial No. \_\_\_\_\_, and a filing date of \_\_\_\_\_, which application corresponds to and claims priority of U.S. Provisional Application Serial No. 60/240,365, filed October 13, 2000; and

WHEREAS, Shipley Company, L.L.C., located at 455 Forest Street, Marlborough, Massachusetts 01752, (hereinafter referred to as the "Assignee"), is desirous of acquiring the entire right, title and interest in and to the same invention, and in and to the said application, and any Letters Patent that may issue thereon;

NOW, THEREFORE, TO ALL WHOM IT MAY CONCERN, be it known that for the above consideration, the Assignors have assigned and transferred, and do hereby assign and transfer to the Assignee, its successors and assigns, their entire right, title and interest for the United States in and to the said invention and in and to the said application and all patents which may be granted therefor, and all divisions, reissues, substitutions, continuations, in whole or in part, re-examinations, and extensions thereof, and all applications claiming priority therefrom; and the Assignors hereby authorize and request the Commissioner of Patents and Trademarks to issue all patents for said invention, or patents resulting therefrom, insofar as their interest is concerned, to the Assignee; to have and to hold for the sole and exclusive use and benefit of the Assignee, its successors and assigns, to the full end of the term or terms for which any and all of said Letters Patent for said invention may issue, to the same extent as the Assignors would hold and enjoy if this Assignment had not been made.

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Docket No. 50914

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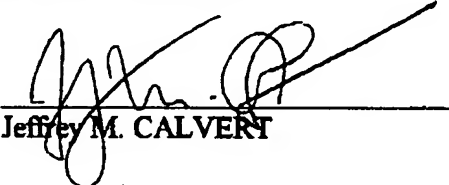
The Assignors also hereby grant the law firm of EDWARDS & ANGELL, LLP, Dike, Bronstein, Roberts & Cushman, IP Group, the power to insert on this Assignment any further identification which may be necessary or desirable in order to comply with the rules of the United States Patent and Trademark Office for recordation of this document.

IN WITNESS WHEREOF, the Assignors have caused this Assignment to be executed.

Dated this 12<sup>th</sup> day of October, 2001

  
Robert D. MIKKOLA

Dated this 11<sup>th</sup> day of October, 2001

  
Jeffrey M. CALVERT